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THE SUPPLEMENT  
TO THE  
UNITED STATES NAVAL MEDICAL BULLETIN

PUBLISHED FOR THE INFORMATION OF

THE HOSPITAL CORPS  
OF THE NAVY

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ISSUED BY

THE BUREAU OF MEDICINE AND SURGERY  
NAVY DEPARTMENT  
DIVISION OF PUBLICATIONS  
MEDICAL INSPECTOR J. S. TAYLOR, UNITED STATES NAVY  
IN CHARGE

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EDITED BY

PASSED ASSISTANT SURGEON G. F. COTTLE  
UNITED STATES NAVY

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OCTOBER, 1917  
(NUMBER 3)



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
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NAVY DEPARTMENT,  
*Washington, March 20, 1907.*

This United States Naval Medical Bulletin is published by direction of the department for the timely information of the Medical and Hospital Corps of the Navy.

TRUMAN H. NEWBERRY,  
*Acting Secretary.*

SUBSCRIPTION PRICE OF THE SUPPLEMENT.

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THE JOURNAL OF THE  
MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA  
PUBLISHED WEEKLY  
BY THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA  
1910



## PREFACE.

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From the first issue of the United States Naval Medical Bulletin it has been intended as a vehicle of communication with the Hospital Corps, and to be the means of imparting information and instruction to it as well as to the Medical Corps of the Navy. The recent expansion and improvement of the Hospital Corps seems now to justify more direct methods and the material prepared for that body will hereafter be issued in the form of a SUPPLEMENT.<sup>1</sup>

Contributions for the SUPPLEMENT are desired from members of the Hospital Corps and from other sources, but the Bureau does not necessarily undertake to indorse all views and opinions expressed in these pages.

W. C. BRAISTED,  
*Surgeon General, United States Navy.*

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<sup>1</sup> The present issue is No. 3. Nos. 1 and 2 appeared incorporated in the July and October issues, respectively, of the United States Naval Medical Bulletin.

## PREFACE

From the first issue of the United States Naval Medical Bulletin it has been intended as a vehicle of communication with the Hospital Corps and to be the means of imparting information and instruction as well as to the Medical Corps of the Navy. The present volume contains direct methods and the material prepared for that purpose. Contributions for the SUPPLEMENT are desired from members of the Hospital Corps and from other sources, but the Bureau does not now wish to undertake to induce all ideas and opinions expressed in these pages.

W. C. HARRISON

Surgeon General, United States Navy

The present issue is No. 1, Vol. 1, and is published quarterly. The first issue of the Bulletin was published in 1892.



## PREPARATION OF SURGICAL DRESSINGS.

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Every doctor, trained nurse and hospital has an individual way to convert gauze and muslin into "ready-made surgical dressings" for use in an operating room or a ward or in the field. It is impracticable to expect that these "ready-made surgical dressings" will always be made according to a definite pattern, nevertheless there are certain surgical dressings, especially those made of gauze and muslin, which are practically the same whether used in the Navy, in the Army, or in the hospitals of the civil population in the United States or in Europe.

For the last three years the American Red Cross has been organizing the women of the United States into chapters and these chapters have been making surgical dressings from gauze and muslin for the hospitals in Europe, which during this time have taken care of a very large number of sick and wounded men. The enormous demand created by the war for surgical dressings on the other side of the water has led to the necessity for standardizing the dressings in most common use. Physicians, surgeons, nurses and hospital superintendents both in this country and abroad have considered the question of standardization of surgical dressings, and many reports have been submitted from which the American Red Cross has selected a few surgical dressings to be made by the women of the United States for the hospitals in Europe.

At a recent conference of the medical officers of the Atlantic Fleet the subject of standardization of "ready-made surgical dressings" for the Atlantic fleet was discussed, and a report on the general subject of surgical dressings was submitted to the Bureau of Medicine and Surgery. From this report it appears that the following gauze and muslin dressings are considered necessary and standard for the Atlantic Fleet:

1. Gauze bandages, 2-inch and 3-inch.
2. Muslin bandages,  $3\frac{1}{2}$ -inch and 3-inch.
3. Large wound dressings.
4. Double gauze compresses, 9 by 9 inches.
5. Large gauze wipes, 4 by 4 inches.
6. Small gauze wipes, 2 by 2 inches.
7. Laparotomy pads, 4 by 16 inches.
8. Laparotomy pads, 12 by 12 inches.

The last five of these "ready-made dressings," designated as standard for the Atlantic Fleet, have been made in very large numbers by the women of the American Red Cross for European hospitals, and the Surgeon General of the Navy recently accepted the offer of the American Red Cross to make up for the ships of the fleet several thousand "ready-made surgical dressings" (those numbered above 4, 5, 6, 7, and 8). So proficient have the women in the many chapters of the American Red Cross become during the last three years that within a period of about two weeks they prepared and shipped for 188 battleships and destroyers the several thousand "ready-made surgical dressings" which were asked for by the Surgeon General of the Navy as a reserve supply for the ships of the Navy.

If the Navy could always call upon the American Red Cross to have the women of its chapters make up "ready-made surgical dressings" for its ships this source of supply would be a very satisfactory one, but a ship or a naval hospital or a naval station may at any time be confronted by a medical or surgical problem which would require the use of a very large supply of surgical dressings at a time when that ship or station could not call upon any source outside of itself for a supply. Every ship and every station must therefore depend upon the ability of the hospital corpsmen to prepare from the bulk muslin and gauze supplied such surgical dressings as may at the time be needed. The hospital corpsmen of the Navy are responsible for the making of the surgical dressings of the Navy, and the newly enlisted men of the corps should at once apply themselves to this task.

In the medical storeroom of each ship and station are the materials obtained upon requisition from the Naval Medical Supply Depot, which are used in the making of surgical dressings. On page 15 of Form B there is a list of surgical supplies, among which are found the following:

Bandages (1-inch, 2-inch, 2½-inch, and 3-inch), dozen.

Cotton, hospital 1-pound roll, roll.

Flannel, yard.

Gauze, plain absorbent, 25-yard roll, roll.

Muslin, yard.

Needles, thimble and thread, set.

Pins, assorted, paper.

Pins, safety, three sizes, dozen.

Tape, pieces.

Packets, first aid.

During the past few months the Hospital Corps of the Navy has been called upon to perform the hospital corpsmen's work for a greatly enlarged naval personnel. The Hospital Corps itself has grown from about 1,600 men to over 6,000 men. Most of these newly enlisted hospital corpsmen have had but a few months' training in the Navy, and the great mass of them have recently come from civil



life and have no knowledge whatsoever of how to make a surgical dressing. So many new tasks have been presented to the hospital corpsmen in the hospital corps schools, in the naval hospitals and aboard ship, that it is quite likely that many if not most of these newly enlisted hospital corpsmen are in need of more definite and exact information of a good method of preparing surgical dressings used in the Navy from the bulk dressings supplied. From the Manual of the Medical Department and from pamphlets of the Red Cross, the method of preparing surgical dressings as given below has been extracted:

### GAUZE BANDAGES.

These bandages are best made in a factory and are supplied to the Navy from the Naval Medical Supply Depot, already rolled.

### MUSLIN BANDAGES, $3\frac{1}{2}$ -inch and 3-inch.

Remove selvage, tear muslin 7 yards long, remove ravelings, roll tightly on bandage roller, turn end in, making a point, tie with a cord or fasten with a pin.

### FLANNEL BANDAGES.

Remove selvage before tearing into width desired; make same as muslin, 5 or 7 yards long.

### CRINOLINE BANDAGES.

Make same as muslin but do not roll on bandage roller, roll more loosely by hand.

### PLASTER OF PARIS BANDAGES.

Make by rubbing plaster of Paris into crinoline bandage and roll by hand. (These bandages are generally furnished to the Navy already made.)

### FIRST-AID PACKET (furnished by Naval Medical Supply Depot).

Contains a compress sewed into a bandage at its middle point. This bandage compress is sterilized and packed under heavy pressure in a tin container about the size and shape of a sardine tin.

### LARGE WOUND DRESSING (Manual, Medical Department 1003).

Cut a length of 40 inches from the standard gauze roll of 4 thicknesses and  $8\frac{1}{2}$  to 9 inches wide. Fold the free ends over so that they meet in the middle. Fold a second time along the line where the free ends meet. The length is now 10 inches and the thickness 16. Tear off a piece of unbleached muslin  $9\frac{1}{2}$  by 6 inches. Lay the gauze compress in the center of the muslin and fasten it there by sewing along the sides. Tear each free end of the unbleached muslin down the middle of the pad so as to make the whole into a four-tailed muslin bandage with a large gauze compress sewed to it at the middle.

## GAUZE DRESSINGS.

COMPRESSES are folded.

ROLLS are folded and rolled.

SPONGES are folded and turned inside out.

LAPAROTOMY PADS are folded and sewed and have tapes on them.

Take gauze roll, open it out to one thickness, pull out one thread to cut by, to insure accuracy, measure first dimension given below along the selvage. Remove loose threads or ravelings. Place selvages to the right hand in all dressings except the sponge and fold all cut edges in.

## DOUBLE GAUZE COMPRESS.

9 by 9 inches finished.

Cut 18 by 36 inches.

Place selvage to right hand; fold cut edges to middle, making 9 inches wide; fold selvage ends to middle, fold once more, making a 9-inch square.

4 by 4 inches finished.

Cut 18 by 18 inches.

Fold like the 9 by 9 inch compress with one more fold to make it square.

## GAUZE WIPES OR SPONGES.

4 by 4 inches.

Cut 12 inches by one-half the width of material (about 18 inches).

Place selvage end farthest from you, fold other end over to selvage; fold side next to you over to selvage; fold ends over 4 inches, or one-third of length, making a 4-inch square; fold lower selvage over others (like turning a glove); fold double layer back over others, having all cut edges folded in.

2 by 2 inches.

Cut 6 inches by one-fourth the width of material (about 9 inches).

Fold like 4 by 4 inch wipes. (May use pieces without selvage but fold in the same way.)

## GAUZE LAPAROTOMY PADS WITH TAPES.

12 by 12 inches.

Cut 24 inches by the width of material (about 36 inches).

Place selvage to right hand; fold cut edges to middle, making 12 inches wide; fold selvage ends over 12 inches, or one-third of length, making a 12-inch square. Sew around edge (making seam one-eighth inch), and sew diagonally from corner to corner. Cut tape 18 inches and double; hold selvage side to right hand and sew tape on upper right-hand corner.

6 by 6 inches.

Cut on selvage 18 inches by one-half the width of material (about 18 inches).

Place selvage to right hand. Fold farthest edge one-third distance toward you; fold nearest edge toward the fold, making a strip 18 by 6 inches; fold twice again, having selvage on top and making a 6-inch square. Sew around edge (making a seam one-eighth inch) and sew diagonally from corner to corner. Cut tape 18 inches and double; hold selvage side to right hand and sew tape on upper right-hand corner.



## GAUZE LAPAROTOMY PADS WITH TAPES.

4 by 16 inches.

Cut 18 inches by the width of material (about 36 inches).

Fold selvage ends together; fold selvage back to folded edge, making four thicknesses about 8 inches wide; turn ends in 1 inch; fold edges together with selvage inside, making 4 by 16 inches. Sew around edge, making seam one-eighth inch. Cut tape 18 inches and double, hold selvage side to right hand and sew on upper right-hand corner.

## GAUZE ROLLS.

3 yards by 4 inches.

Cut 3 yards long by one-half the width of material (about 18 inches).

Cut off selvage; turn ends in 1 inch; fold cut sides to middle, making about 8 inches wide; fold again, making about 4 inches wide; fold one end over  $1\frac{1}{2}$  inches; roll firmly and evenly; turn end in as when beginning, and tie with selvage.

1 yard by 4 inches (made in either of two ways, (a) or (b)).

(a) Cut  $16\frac{1}{2}$  inches on selvage by width of material (about 36 inches).

Fold cut sides to middle, making about 8 inches; fold again, making about 4 inches; roll firmly and evenly; tie with selvage. Do not turn under selvage edge.

(b) Cut 1 yard by one-half the width of material (about 18 inches).

Cut off selvage and fold like 3-yard roll.

## GENERAL DIRECTIONS FOR WRAPPING GAUZE DRESSINGS IN PACKAGES.

These gauze dressings should be wrapped in small packages, a certain *definite number* being placed in each package. For example: Double gauze compresses, 6 in each package; gauze wipes, 12 in each package; laparotomy pads, 3 in each package.

Each package of dressings should be wrapped in cotton cloth, bleached or unbleached. This cloth must be new or at any rate absolutely clean and strong and it must be *sufficiently large to completely cover the dressing*. One layer of the cloth must be brought halfway across the top and folded under, allowing sufficient material at the ends to bring to the top where it may be pinned securely so that every part of the dressing contained is entirely covered by the cloth wrapper. No part of the pin should be exposed but the head. Mark with ink on outside of package the number and kind of dressings contained.

It is believed that every hospital apprentice, first or second class, should know how to prepare all of the above-described dressings from the materials supplied to ships on Form B.

There are many other dressings, both gauze and muslin, in frequent use in the Navy and elsewhere. From among the large number of these a few have been selected for description below, in order that the hospital corpsman in charge of an operating room may have before him an exact method of preparing them.

## ABDOMINAL BANDAGE (muslin).

Used to retain dressings on abdomen.

Tear muslin 48 by 18, hem.

Finished bandage  $47\frac{1}{2}$  by  $17\frac{1}{2}$  inches.

## SCULTETUS BANDAGE (muslin) OR MANY-TAILED BANDAGE.

Central piece 18 by 18 inches, and 5 tails on each side 18 by  $3\frac{1}{2}$ .

Tear muslin 54 by 18 inches.

Hem torn 54-inch side.

Make four tears in each end, beginning  $3\frac{1}{2}$  inches from selvage and placing  $3\frac{1}{2}$  inches from each other.

Extend these tears inward 16 inches, leaving untorn center 18 inches square.

## TRIANGULAR BANDAGE (muslin).

Tear muslin 36 inches square.

Fold diagonally.

Cut from corner to corner, making two triangles.

Hem edges.

## T-BANDAGE (muslin).

Make in two parts, then sew two parts together.

First, split tail (second, belt).

Tear muslin  $40\frac{1}{2}$  by 14.

Fold lengthwise  $40\frac{1}{2}$  by 7 inches.

Stitch one end and side with torn edge.

From middle of stitched end tear along center to within  $13\frac{1}{2}$  inches of unstitched end.

Stitch around torn edges.

Turn inside out.

Stitch all around end three times at crotch.

Second, belt.

Tear 53 by 7 inches.

Now sew together.

Place untorn end of tail on center of belt  $3\frac{1}{2}$  inches from its upper edge and stitch securely.

Fold belt lengthwise over part of tail already stitched on belt.

Stitch securely all around four sides of belt.

## ABSORBENT PAD, 12 by 24 inches.

Waste gauze, oakum, or sphagnum moss. Used as covering for large wounds with copious discharge. Oakum is used when discharge is foul or fecal.

Cut gauze 36 by 36 inches.

Place *cut edges* to right and left.

Place pad of waste gauze, oakum, or moss (12 by 24 by  $\frac{1}{2}$  inch thick) in center of gauze square.

Fold lower selvage over pad.

Fold upper selvage over pad.



Tuck both cut edges inward, envelope fashion, between pad and gauze.

(Designate whether waste gauze, oakum, or moss.)

IRRIGATION PAD, 16 by 24 inches.

Absorbent cotton and nonabsorbent cotton.

Used to cover large suppurating wounds which are treated by continuous or intermittent irrigation.

Cut gauze 60 by 36 inches.

Place *cut edges* to right and left.

Place one layer absorbent cotton 16 by 24 by  $\frac{1}{2}$  inch thick on gauze with its short side parallel to and 5 inches from left outside and its long side parallel to and 10 inches from upper and lower selvages.

Place similar layer of nonabsorbent cotton on top of absorbent cotton.

Fold left cut edge 5 inches over pad.

Fold lower edge selvage 10 inches over pad.

Fold upper selvage 10 inches over pad.

Fold right end over pad 24 inches and tuck remaining 7 inches between pad and gauze, envelope fashion.



## NEWS.

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### THE HANDY BOOK FOR THE HOSPITAL CORPS.

This volume has been issued in its new form and should be in the possession of every hospital corpsman, who should study it throughout his entire service career.

The book can be obtained by the medical officer on Form B for the medical library of the ship or station in such number as may be needed, and the Bureau of Medicine and Surgery has planned to give a copy to each hospital corpsman at the training station. If, because of the recent inrush of new men, there are any who have not received the book they may obtain one by sending 50 cents to the Superintendent of Documents, Government Printing Office, Washington, D. C., with request that the Handy Book for the Hospital Corps, United States Navy, 1917, be sent. (Send cash or money order; not stamps or checks.)

### PROGRESS OF THE HOSPITAL CORPS.

December 1, 1916, was a great day in the history of the Hospital Corps. On that day many who had for years held the old rating hospital apprentice first class became pharmacist's mates second class. March 31, 1917, was another great day in the history of the corps. On that day, or shortly after, 23 chief petty officers who had been found qualified were given warrant commissions as pharmacists. Again, July 4, 1917, was a memorable date. On that day 54 more chief pharmacist's mates were given temporary warrant commissions as pharmacists. During the seven months that contained these great days, each was really one of deep significance for the Hospital Corps as a whole. First enlistments increased; the corps began to grow. The corps, which contained about 1,600 December 1, 1916, contained over 6,000 in the regular service and over 400 in the reserve by August 1, 1917.

First enlistments in the Hospital Corps continue to be made in the ratings of hospital apprentice second class or first class, so that every man has had an equal chance upon enlistment. There is plenty of room to-day in every rating of the Hospital Corps above that of hospital apprentice first class for the well qualified, industrious, ambitious, hard-working, uncomplaining man who can dem-



onstrate his ability to the medical officer with whom he is serving and through him to his commanding officer.

While chief pharmacist's mates were being promoted to pharmacists a considerable number of chief pharmacist's mates were promoted to pay clerks. About 30 in all have been thus promoted since December 1, 1917. To sum up, since December 1, 1917, over 100 chief pharmacist's mates have been given warrant rank of pharmacist or acting pay clerk.

This shows what the training of the Hospital Corps does for a man.

## ENLISTMENTS IN HOSPITAL CORPS.

The number enlisting by months since July, 1916, is as follows: July, 38; August, 27; September, 27; October, 56; November, 39; December, 51; January, 62; February, 111; March, 148; April, 1,022; May, 1,928; June, 1,287; July, 588.

The number of first enlistments is now limited to 125 a month.

## THE HOSPITAL CORPS SCHOOLS.

During the past six months our schools have been put to a severe test. The course of instruction in them was for a while reduced from six to three months. The number of hospital corpsmen in attendance grew from about 100 to 800 at each of the three schools, then the number gradually lessened, and it will continue to lessen from now on until a normal number are in training at each school. There are now four Hospital Corps schools—one at Newport, one at San Francisco, one at Great Lakes; the newest one is now being established at the new training station at Norfolk on the old Jamestown Exposition site. During the summer the College of Pharmacy of Columbia University gave a nine weeks' course of instruction to 300 hospital apprentices, second class, for whom there was no room in the regular Hospital Corps school.

## HOSPITAL CORPSMEN ON ACTIVE DUTY.

*In naval hospitals* the number of hospital corpsmen has increased, but unfortunately their stay in them has had to be shortened very materially in order to fill vacancies at sea. Every hospital corpsman while in a hospital should study the methods of the Nurse Corps and learn all he can about the care of the sick. This part of his training is very important and one in which he sometimes neglects to interest himself as much as in other work pertaining to the corps.

At sea during the past few months the hospital corpsmen have had very hard work, and when the newly enlisted men get to sea in sufficient numbers the older men will expect to come ashore for a while unless they have been advanced in rating to pharmacist's mate, first class, or chief pharmacist's mate.

At shore stations beyond the seas the hospital corpsmen have been kept a little over the usual 18-month period, but now that the Hospital Corps has acquired so many new members it is expected that men at these distant stations may be relieved more nearly on time.

On the Asiatic Station the Hospital Corps force has been augmented by sending out new men in considerable numbers. The older hospital corpsmen on the Asiatic Station will find they have an interesting and important work in helping the medical officers to train the new men.

In Europe and on board the new ships of the Navy, new in name and new in type, the hospital corpsmen are finding many interesting problems to solve.

With marine forces on expeditionary duty the hospital corpsmen have always in the past had a very interesting field for the exercise of the duties of their rate. Camp sanitation and hygiene, the precautionary measures taken against diseases in the Tropics or in colder latitudes, together with the care of the sick in improvised quarters or in tents or other places only partly adapted to the purpose, have always developed in the hospital corpsman serving with marine forces a degree of versatility and adaptation which makes an efficient man of him and gives him the variety and sometimes the excitement which ambitious youth always seeks.

Now that the marine forces have gone to the European field, the hospital corpsman acting with them has a new and exceedingly interesting field, one which not only requires a knowledge of first aid and of transportation of the sick and wounded in the field, but which gives him an opportunity to serve at the front.

From the first report received from the surgeon of the first marine expeditionary forces sent to France the following summary is taken:

Antityphoid and cowpox vaccine have been administered to the entire command. Lectures on venereal disease, intemperance and the drinking of contaminated water, milk, etc., and on personal hygiene have been given. Venereal disease and intemperance are at a minimum.

Physical and litter drill and first-aid instruction has been given to hospital corpsmen and bandsmen and the men are deeply interested in this work and the results are striking.

Practice marches are to be held at all concentration camps to eliminate the physically unfit and all men should be impressed with



the necessity of keeping physically and mentally fit for the laborious task to come.

The French hospital corpsmen are selected and trained with a view to the great physical vigor and strength required in their work. Near the place where one portion of our troops, the marine forces, were quartered on landing in France, trenches identical with those used at the front have been constructed by the French, and their medical department has given demonstrations of its methods of carrying wounded in and out, of the use of dugouts for dressing stations, the employment of gas masks, etc. All this is of huge interest to members of the Hospital Corps of our Army and Navy.

Every officer and man has entered into the performance of his task with a zeal and energy which is to be commended. The health and morale of the whole command is excellent.

### NAVAL COAST DEFENSE RESERVE FORCE.

The Hospital Corps of this body has enrolled to the number of four or five hundred men. Their duties are largely within a naval district or on the ships of the district, and their training, transfer, and promotion is regulated within the district in conformity with the policies for the Regular Establishment. Some of them are slated for duty with our naval base hospitals, both at home and abroad. Later they may be given an opportunity to serve at sea.

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### CONTRIBUTIONS.

Pictures, news items, suggestions, and written articles for this publication are expected from the hospital corpsman of the naval service wherever he may be on duty. Only such as contain interesting reports of the activities of the Hospital Corps or well considered and timely information for the members of the corps will be published. It is hoped that every hospital corpsman will come to feel that in the pages of this publication he has a way to help other members of the corps to become more proficient in their duties, a way to tell other members of the corps what interesting duties are presenting themselves, and a way to keep alive to the opportunities both within and without the naval service which the conscientious and hard-working hospital corpsman has before him.

(G. F. C.)



## CLIPPINGS.

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### NEW YORK BOARD OF PHARMACY TO CREDIT TIME SPENT IN ARMY OR NAVY HOSPITAL CORPS.

Through a special ruling of the New York Board of Pharmacy, time spent in the Hospital Corps of the Army or Navy will be credited toward experience required for admission to examinations by the board. Secretary Warren L. Bradt has issued the following statement concerning this important ruling: "I beg to say that I am authorized to advise all persons making inquiry in this matter that such time will count as experience toward experience required for admission to the licensing examinations. This is a very broad interpretation of the law and rules relating to the requirements for experience, but it is justifiable in the present crisis."—*The Druggist's Circular*, May, 1917.

### EXTREME DANGER OF FUMIGATION BY HYDROCYANIC ACID.

Sand (*Ugeskrift f. Læger* through *Journ. Am. Med. Asso.*) adds to the list of fatalities resulting from the use of vapor of hydrocyanic acid as an insecticide. The room in which the vapor had been generated had been sealed except an opening around a pipe from the bathroom on the floor above. A child went into this bathroom and was found dead there five minutes later. The child had been depressed by a pulmonary affection and the case was quoted to show probable augmentation of danger by the two causes; but it is manifest that the risk from the acid is extreme with the most robust; and the method unsafe always from the chance of unexpected leakages.—*The Druggist's Circular*, May, 1917.

### AN EXPLOSIVE PRESCRIPTION.

A prescription among whose ingredients were bismuth subnitrate and sodium bicarbonate gave an explosive mixture. Linton (*Pacif. Drug Rev.*) points out that the subnitrate in the presence of water slowly liberates nitric acid, which in turn liberates carbon dioxide gas from the sodium salt.—*The Druggist's Circular*, May, 1917.

## DETECTION OF SUGAR IN MILK.

In order to conceal the want of density of watered milk frequent sugar water is added to it, which can be detected by the following method (*Gac. farm. Espan.* through *Rep. pharm.*): Ten mils of the milk are mixed in a test tube with 10 mils of a solution of 20 grammes of ammonium molybdate and 100 grammes of hydrochloric acid in sufficient water to obtain 1,000 mils. In a second tube, 10 mils of unadulterated milk or of a 60 per cent lactose solution are also mixed with 10 mils of the reagent. Both samples are heated on the water bath at 80°. The contents of the tube containing the sugared milk will turn deep blue while the contents of the other tube remains colorless. It is claimed that by this method as little as 0.1 per cent of sugar can be detected.—*The Druggist's Circular*, May, 1917.

## CULTIVATION OF MEDICINAL PLANTS IN GERMANY

According to an article in the *Pharm. Zeitung*, volume 32, page 166, the Governments of Prussia and Saxony are urging and encouraging the cultivation of plants for medical use. A commission has been appointed to give the matter careful study and to report on the possibilities in this direction. Attention is called to the fact that improvements in agriculture are leading to the cultivation of land upon which wild drug plants were growing and to keep up this supply it is absolutely necessary to cultivate them. The medical profession for a long time was prejudiced against the use of cultivated medicinal plants, as it was felt that the activity and potency of cultivated drug plants was very inferior to that of the wild plants. But chemical and biological assay have shown that such prejudice has no basis in fact and is rapidly becoming a thing of the past. Where such inferiority may exist or appear it is undoubtedly due to improper and unsuitable methods of cultivation. Careful observation and experimentation will bring about the best conditions for cultivation, when without doubt the active constituents will show an increase. It is also worth while that in the cultivation of these plants they can be collected at any given period of their development, and also that they can be gathered free from admixture. (*The Pharm. Journal*, May 5, 1917, p. 375.)

## ETHER FOR NARCOSIS.

Schenk (*Apoth. Zeit.*) again warns against keeping ether for narcosis in cork-stoppered bottles, because it extracts a substance from the cork which reacts both with caustic potash and with Nessler's reagent, and therefore renders the ether not corresponding to



the purity required by the German Pharmacopœia. It is claimed that the substance extracted from the cork is vanillin, but Schenk found that it does not give the characteristic reaction for this substance with phloroglucinol and hydrochloric acid. He also found that Nessler's reagent is more sensitive for detecting this foreign substance than caustic potash. (*The Druggist's Circular*, May, 1917.)

## COLLODIUM.

*Collodium.*—Collodion is incompatible with water or any acid, tincture, fluid extract, or other preparation containing an appreciable amount of water. Its nonvolatile ingredient, pyroxylin, is partially reduced by alkalis, yielding a product soluble in a weak alcoholic solution, and this forms the basis of some liquid court-plasters. It is gelatinized by phenol, also by an excess of creosote. Pure tincture of iodine gives a gelatinous mass which slowly turns to a perfect solution; the presence of an iodide prevents this gelatinization. (*N. A. R. D. Journal*, June 28, 1917, p. 543.)

## GALEN. BORN 130 A. D.

To Galen, the Greek physician and ardent disciple of Hippocrates, must be given the honor of first proving the true value to medical science of plant drugs. His use of these caused him to become the most eminent physician of his time and to be regarded even to-day as one of the greatest pioneers in medical science.

Galen did not allow himself to be confused by the differences of opinion existing between physicians of the various sects which flourished at that time, but, gifted with genius and with boundless faith in himself, he chose from each sect the principles and practices which appealed to him and rejected the rest.

At the age of 32, already famous for his medical and surgical skill, Galen went to Rome, and here, among the hundreds of medical fakers and so-called specialists, he performed cures in all the branches of medical science, winning both fame and fortune. So successful was he that, though attacked from all sides by his jealous enemies, he became the most famous practitioner of Rome, and was looked upon as a worker of wonders.

Galen spent much time in travel and in investigating the properties of the medicinal plants then in use. He wrote numerous works on medical subjects, and the best evidence of his abilities that can be offered is that his doctrines prevailed for centuries, and to-day we bestow the name "Galenical" to that large and most important class of medicine having botanical origin.—*Merrill Messenger*.



## HOSPITAL CORPSMEN COMMENDED.

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Extracted from OFFICIAL BULLETIN No. 70, Washington,  
Wednesday, August 1, 1917:

### NAVY MAN COMMENDED.

The Secretary of the Navy has commended Lee Nelson Hinchliffe, pharmacist's mate, third class, United States Navy, for acts of gallantry in rescuing several persons from drowning when a street car of the Niagara Gorge Route overturned on July 1, 1917. Hinchliffe displayed great presence of mind and courage, and attempted the rescues with risk of losing his own life in the deep waters of the Niagara River where the accident occurred and where many persons lost their lives.

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### OFFICE OF THE COMMANDANT.

NAVY YARD, MARE ISLAND,

*Vallejo, Cal., March 9, 1916.*

To: G. S. Throp, hospital steward, United States Navy, yard dispensary, Mare Island, Cal.

Subject: Duty performed in connection with recent tuberculin test of cattle on Mare Island.

The commandant, on behalf of the officers and civilians concerned, wishes to express to you his appreciation of your work in connection with the recent tuberculin test of cattle on Mare Island.

(Signed) F. M. BENNETT.

(23)



# HOSPITAL CORPSMEN COMMANDED

## NAVY MAY FORWARDED

### OFFICE OF THE COMMANDANT

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## PROMOTION.

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### PROMOTION AS IT APPLIES TO THE HOSPITAL CORPS.

By JAMES HOLDEN, Pharmacist, United States Navy.

Did you ever stop to reason with yourself why you are a hospital apprentice, first class, or a pharmacist's mate, third class, while your chum at the Hospital Corps Training School is a chief pharmacist's mate or pharmacist? Has the thought that other men in the corps were advancing to higher ratings while you were apparently standing still occupied your attention? If you are not a thinker the question passes quickly from your mind and you are satisfied with the conclusion that "Jones" had better educational advantages than you or had been especially favored by circumstances. If, on the other hand, you had taken the question seriously to heart instead of letting valuable time go to waste, you, too, would have qualified for advancement in rating and would not be a spectator as the procession sweeps by.

I recently received a letter from an old hospital corpsman requesting information as to how he could obtain an appointment as pharmacist and saying that it was humiliating to him to see the younger element passing him by after he had endured the hardships of the "old Navy" and spent years in the service as a hospital steward. "Promotion by selection" answers the problem in this case, and, to be more definite, this means your ability to demonstrate your fitness for selection by conscientious application to your duties and hard study in order that you may pass the required examination.

What are you doing to warrant your promotion by selection from the "pick-and-shovel" class?

To meet the present crisis the Medical Department can utilize the services of all men who can qualify by examination for the ratings of pharmacist's mate, first class, chief pharmacist's mate, or the grade of pharmacist. It therefore devolves upon every member of the corps to exert his best efforts to obtain the necessary, knowledge, training, and experience for promotion, and in this way do his bit to increase the efficiency of the corps.

Those who feel that a lack of preliminary education is an obstacle to their advancement are referred to the results of the February, 1917, examination for pharmacist, an analysis of which shows that 82.6 per cent of the successful candidates entered the service as hospital apprentices with little or no previous experience or training.

The object of these remarks is to stimulate and encourage the younger as well as the older element of the Hospital Corps and point out the road to promotion and higher pay from the viewpoint of one who has been through the mill.

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Promotion in the Hospital Corps to-day comes to the hospital corpsman who can demonstrate his qualifications for the rating next above that which he holds. All of the persons of the Hospital Corps who enroll in the Naval Reserve Force or enlist in the Navy must do so in one of the two lower ratings, hospital apprentice first or second class. He who is permitted to come in in the rating hospital apprentice first class is generally a registered pharmacist, a dental student, or a trained nurse. He who comes in in the rating of hospital apprentice second class is a young man with a grammar or, better still, a high-school education, and in some cases even a college education.

Before the entrance of this country into the war, certain restrictions were placed upon promotion, the main restriction being the necessity for serving a certain length of time in a rating. This restriction upon promotion has now been removed, and to each commanding officer has been delegated the authority to advance men in enlisted ratings at his discretion when found qualified in accordance with the provisions of General Order No. 63, Bureau of Navigation's Annual Circular, 1917, and the Bureau of Navigation circular letter of September 19, 1917, N6L2158-527.

There appears above a brief article by a pharmacist of the Navy who entered the service as a hospital apprentice and who was promoted as he acquired experience and training in the Hospital Corps until he finally attained the warrant rank of pharmacist. He has spoken to the younger and to the older men of the Hospital Corps, and his remarks may be amplified by the following:

Each hospital corpsman should—study the subjects A to N; study the Hospital Corps Handy Book; study the work of the Medical Department; prove to the medical officer that he is the best qualified hospital corpsman serving with him so that when he has served a sufficient time to acquire a thorough knowledge of the duties of the next higher rating and knows that he can pass an examination in the subjects which are laid down in detail in the Bureau of Navigation's Annual Circular, 1917, and in the Manual of the Medi-



cal Department, he will be able to demonstrate his ability to the board of medical officers that examines him for the next higher rating.

The following is quoted from a circular letter from the Bureau of Medicine and Surgery to all medical officers:

1. Advancement to the rating of pharmacist's mate third class should be a certification that the man has been so trained as to be of immediate value to the medical officer in the sick bay of a ship; to pharmacist's mate second class should be a certification that a man is capable of taking charge of a hospital corpsman's work on board ship during the temporary absence of a medical officer; to pharmacist's mate first class or chief pharmacist's mate should be a certification that the man is capable of assuming charge of the medical department of a ship to which no medical officer is attached. In detail the method of examination for the various ratings of the Hospital Corps is laid down in the Bureau of Navigation's Annual Circular, 1917, and in the Manual of the Medical Department.

2. The Bureau of Medicine and Surgery considers that a hospital corpsman should be recommended for advancement in rating only when, through experience as well as by study, he has qualified for the rating next above the one he holds. This bureau considers that only exceptional men can acquire the needed variety of experience in so short a period as three months, and only then if there has been exceptional opportunity for such experience. The bureau considers that six months is none too long a period for a man to acquire the varied experience necessary for him to qualify for advancement in the Hospital Corps. It is desired that medical officers recommend for advancement only the hospital corpsman who has been industrious, diligent, studious, painstaking, accurate, capable, dependable, tactful, and able to assume responsibility and to act with good judgment.

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Since May, 1917, time restrictions formerly placed upon advancement in ratings have been removed and authority has been given to commanding officers to rate hospital corpsmen found qualified in accord with Bureau of Navigation's Annual Circular, 1917.

Below is a list of men who have been found qualified for advancement in rating. The dates opposite the names show that information has been received that on the date given the man qualified for the rate. Where a star appears opposite a given date it is to be understood that no information regarding actual promotion has been received.



# PROMOTIONS TO PHARMACIST'S MATES, FIRST CLASS AND TO CHIEF PHARMACIST'S MATES (ACTING).

Name.	Pharmacist's mate, first class.	Chief pharmacist's mate (acting).	Name.	Pharmacist's mate, first class.	Chief pharmacist's mate (acting).
Strott, G. G.	Nov. 22, 1916	July 3, 1917	Watson, C. A.	Feb. 9, 1917	
Sendecki, J.	Dec. 1, 1916	May 29, 1917	Flash, T. F.	Feb. 13, 1917	
Leh, A. R.	do	June 7, 1917	Watson, R.	do	June 11, 1917
Garhart, L. E.	do	June 11, 1917	Monblatt, M.	Feb. 28, 1917	June 25, 1917
Brown, C. L.	do	do	Brisson, A. F.	do	
Sampson, W.	do	June 26, 1917	Goss, H. J.	Mar. 5, 1917	July 2, 1917
Starke, F.	do		Newbauer, J. A.	do	June 15, 1917
Harper, W. A.	Dec. 4, 1916	*June 14, 1917	Havelick, F. J.	Mar. 6, 1917	June 13, 1917
Pettit, R. F.	Dec. 6, 1916	Mar. 12, 1917	Cuthbertson, H.	*Mar. 7, 1917	
Buroker, H. C.	do	June 13, 1917	Stewart, W. L.	Mar. 14, 1917	June 15, 1917
Johnson, A. J.	Dec. 7, 1916	July 3, 1917	Gelatte, A. C.	*Mar. 15, 1917	
Black, J. F.	do	May 29, 1917	Brown, W.	do	June 9, 1917
Taylor, T. S.	do		Winston, E. H.	Mar. 16, 1917	July 16, 1917
Moon, W. H.	Dec. 8, 1916	June 15, 1917	Chase, L. R.	Mar. 17, 1917	June 19, 1917
Johnson, P.	do	July 22, 1917	Hollva, W. S.	Mar. 19, 1917	*June 13, 1917
Hardage, A. B.	do	June 15, 1917	Beers, G. R.	Mar. 20, 1917	June 18, 1917
Mariette, C. A.	do	June 25, 1917	Silden, C. B.	Mar. 26, 1917	
Corder, W. F.	Dec. 9, 1916		Hostetter, W.	*Mar. 27, 1917	*July 10, 1917
Shircliffe, C. A.	*Dec. 11, 1916	*July 26, 1917	Alderdice, A. A.	Mar. 30, 1917	June 23, 1917
Stoner, W. M.	do		Nichols, F. C.	*Mar. 31, 1917	
Harwell, E.	do	June 23, 1917	Cameron, J. J.	do	
Thompson, R. U.	Dec. 12, 1916		Taber, G. D.	Apr. 2, 1917	June 9, 1917
Tiedman, A. J.	do		Burke, W. D.	Apr. 6, 1917	June 26, 1917
Wolford, H. W.	do		Kirwan, B. E.	do	June 11, 1917
Parrish, J. J.	*do		Throckmorton, M. W.	Apr. 7, 1917	June 18, 1917
Metzker, S. C.	do	*Apr. 28, 1917	Hathaway, S. E.	do	Do.
Duncan, F. C.	do	May 29, 1917	Donald, J.	Apr. 17, 1917	
Leininger, C. F.	Dec. 13, 1916		Clymer, R. E.	do	
Willey, A.	Dec. 15, 1916		Patterson, L. C.	Apr. 18, 1917	June 9, 1917
Souzer, M.	Dec. 16, 1916	May 26, 1917	Petrey, C. C.	Apr. 19, 1917	June 4, 1917
Harlan, J. B.	do	May 29, 1917	Remley, E. R.	Apr. 18, 1917	Do.
Burris, L. W.	do	June 11, 1917	McLean, N. H.	*Apr. 20, 1917	
Zimmerman, M. E.	Dec. 20, 1916	June 5, 1917	Manahan, O. K.	*Apr. 25, 1917	June 4, 1917
Stimson, J. H.	Dec. 21, 1916	*June 9, 1917	Flynn, E. W.	do	*July 14, 1917
Kirkgessner, A.	do	July 4, 1917	Herron, J. A.	Apr. 27, 1917	June 15, 1917
McGee, T. W.	do		Knight, J. F.	do	Do.
Lane, J. McR.	Dec. 22, 1916		Barker, R. M.	Apr. 28, 1917	
Sperling, M. M.	do		Havlichick, J. T.	Apr. 30, 1917	
Jarvis, H. S.	do	*June 13, 1917	Jones, L. F.	May 3, 1917	
Porter, L. W.	do	June 16, 1917	Kane, H. M.	do	
Meyers, F. L.	do	July 17, 1917	Trobee, W. C.	May 4, 1917	Aug. 3, 1917
Fernquist, E.	Dec. 24, 1916	June 4, 1917	Blandin, D. S.	May 7, 1917	July 16, 1917
Sayre, E. L.	Dec. 27, 1916		Young, B. F.	May 12, 1917	
Rollins, R. H.	*do	*June 9, 1917	Kohler, F. C.	do	
Drum, C. H.	*do	*July 3, 1917	Depew, R. S.	May 21, 1917	
Lansdowne, H. S.	Dec. 28, 1916	Aug. 15, 1917	Buchan, R. K.	May 14, 1917	June 29, 1917
Barton, J. R. F.	Dec. 29, 1916	May 29, 1917	Davis, G. T.	May 15, 1917	
Norton, D. H.	Dec. 30, 1916		Check, L. G.	May 21, 1917	
Lobrano, W. M.	do	June 18, 1917	Drumheller, S. T.	do	
Meece, C. E.	Jan. 1, 1917	*May 29, 1917	Farrell, J. J.	do	May 29, 1917
Rude, J.	Jan. 3, 1917		Jones, C. E.	do	Aug. 7, 1917
Zimmerman, R.	do		Ward, J. L.	May 22, 1917	
Lucy, H. J.	Jan. 4, 1917	*Aug. 18, 1917	Rugg, S. M.	May 26, 1917	
Goodwin, B. D.	Jan. 6, 1917	July 1, 1917	Diamond, D. H.	do	
Courtney, W. F.	Jan. 8, 1917	June 30, 1917	Fay, C. S.	do	
Coll, E. T.	do	June 28, 1917	Montgomery, L. C.	do	
Hager, H. S.	do	July 10, 1917	Deiving, R. E.	do	
Tousie, H. S.	Jan. 10, 1917	*June 13, 1917	Wilkins, S. P.	do	
Boles, G. W.	Jan. 13, 1917	June 15, 1917	Stanley, A. M.	do	
Williams, H. O.	Jan. 15, 1917	June 11, 1917	Tinker, F. J.	May 27, 1917	
Gedney, C. N.	do		Barker, W. L.	May 28, 1917	*Aug. 25, 1917
Thomas, J. H. J.	Jan. 17, 1917		Niles, E. M.	May 29, 1917	
Walker, L. M.	do		Stonehouse, C. A.	do	
Nichols, E. R.	do	Aug. 20, 1917	Haynes, W. G.	do	
Chapman, E. A.	Jan. 20, 1917	July 18, 1917	Ashby, R.	June 4, 1917	
Bond, S. W.	do	June 15, 1917	Wilke, E. C.	June 5, 1917	
Mason, L. R.	Jan. 22, 1917	May 30, 1917	Stoner, R. V.	June 6, 1917	
Wentworth, J. H.	do	July 17, 1917	Bell, J. H.	June 6, 1917	
Drake, J. F.	Jan. 23, 1917	June 25, 1917	Woodard, W. H.	do	
Beal, H. C.	Jan. 25, 1917		Forni, J. P.	do	
Mundorff, E. A.	Jan. 30, 1917	July 16, 1917	Mitchell, C. M.	June 8, 1917	
Hoggard, W. V.	Feb. 1, 1917	July 4, 1917	Stamps, B. B.	June 9, 1917	
Mandigo, B. W.	do	June 15, 1917	Hawkins, E. W.	do	Aug. 1, 1917
Buell, O. W.	Feb. 2, 1917	Aug. 15, 1917	Yates, C. L.	do	
Newcomer, H. B.	Feb. 5, 1917	May 24, 1917	Blumenschein, H.	do	
Niles, E. M.	Feb. 6, 1917	May 29, 1917	Darby, F. G.	June 10, 1917	
Walton, J. H.	Feb. 9, 1917		Anderson, F. H.	do	



Promotions to pharmacist's mates, etc.—Continued.

Name.	Pharmacist's mate, first class.	Chief pharmacist's mate (acting).	Name.	Pharmacist's mate, first class.	Chief pharmacist's mate (acting).
Leonard, A. C.	June 11, 1917	.....	Irvin, W.	*July 12, 1917	.....
Juhnke, W. A.	do.	.....	Best, J. G.	July 12, 1917	.....
Griffith, G., Jr.	do.	.....	Ricklefs, F. C.	July 14, 1917	.....
Shabek, L. F.	June 13, 1917	.....	Larsh, L. A.	*July 15, 1917	.....
McDonald, J. R.	do.	.....	Lusk, R. A.	July 16, 1917	.....
Tracey, G. M.	June 14, 1917	.....	Titzel, L. B.	July 18, 1917	.....
Huebner, A. F.	do.	July 26, 1917	Reed, R. E.	do.	.....
Mahurin, J. A.	do.	.....	Stritzinger, W. M.	do.	.....
Bedard, W. R.	*June 15, 1917	.....	Chaney, O. E.	*July 19, 1917	.....
Gannon, J. J.	June 15, 1917	.....	Streets, S. L.	July 21, 1917	.....
Strong, S. F.	do.	.....	Templin, C. W.	do.	.....
Richard, G. F.	do.	.....	Loegel, P. J.	do.	.....
Husten, B. F.	June 16, 1917	July 18, 1917	O'Neill, D. H.	do.	.....
Veselik, T. F.	do.	do.	Robbins, M. W.	July 21, 1917	.....
Agnes, E.	do.	Aug. 7, 1917	Schulze, F. H.	*July 21, 1917	.....
Gruebele, J. G.	do.	do.	Smith, William Briggs	July 22, 1917	.....
Allen, J. J.	June 17, 1917	.....	Murphy, E. F.	July 24, 1917	.....
Kelley, J. J.	do.	.....	McNew, W. A.	July 26, 1917	.....
Whitbeck, C. H.	*June 17, 1917	*Aug. 18, 1917	Whitacre, C. H.	July 26, 1917	.....
Wholley, J. E.	*June 17, 1917	Aug. 18, 1917	Moore, J. S.	July 27, 1917	.....
Gilbert, P. S.	*June 17, 1917	Aug. 19, 1917	Bostic, S. E.	do.	.....
Merry, D. L.	June 17, 1917	Aug. 10, 1917	Dungan, E. E.	do.	.....
Schenck, J. F.	June 18, 1917	.....	Dean, C. M.	July 28, 1917	.....
Mooney, R. W.	June 19, 1917	.....	Campbell, J. R.	do.	.....
Wallace, J.	do.	.....	Paul, H. H.	July 31, 1917	Sept. 11, 1917
Young, A.	do.	.....	Field, C. K.	do.	*Sept. 11, 1917
Mansfield, E. S.	June 20, 1917	Aug. 1, 1917	Smith, H. J.	do.	.....
Hollan, L. J.	do.	Aug. 7, 1917	Hickok, H. C.	*July 31, 1917	.....
Moe, F. P.	do.	Aug. 10, 1917	Dennis, H. J.	July 31, 1917	.....
Elde, E. S.	do.	.....	Kitchens, J. B.	do.	.....
Chenkin, S.	June 21, 1917	.....	Chesters, C.	do.	.....
Foll, E. F.	*June 22, 1917	.....	Gwynn, A. S.	*July 31, 1917	.....
Hammer, R. J.	do.	.....	Baker, E. R.	July 31, 1917	.....
Brauer, E. C.	June 23, 1917	.....	Julian, E. V.	do.	.....
Connell, L. M.	do.	.....	Rotchford, F. H.	*Aug. 1, 1917	.....
Smith, G. W.	June 23, 1917	July 18, 1917	Stommel, C. J.	do.	.....
Cooper, H.	do.	do.	Wilkey, E. P.	Aug. 1, 1917	.....
Beyer, G. L.	do.	.....	Robarge, A. A.	Aug. 3, 1917	.....
Schultheis, W.	*June 26, 1917	.....	Gardner, R. E.	*Aug. 3, 1917	.....
McMillan, G. E.	June 26, 1917	Sept. 10, 1917	Stone, R. O.	Aug. 3, 1917	.....
Bessent, G. E.	do.	.....	Dent, M. E.	*Aug. 3, 1917	.....
Kolb, E. V.	do.	.....	Dolcater, J. H.	do.	.....
Moore, T. G.	June 27, 1917	.....	Jackson, J. A.	Aug. 4, 1917	.....
Scott, R. A.	*June 29, 1917	.....	Holtry, F.	Aug. 6, 1917	.....
Downes, E. S.	June 20, 1917	.....	Crabtree, L. J.	*Aug. 8, 1917	Aug. 10, 1917
Holcomb, W. C.	June 30, 1917	.....	Morris, W. C.	Aug. 9, 1917	.....
Jackson H. K.	do.	.....	Piland, E.	Aug. 9, 1917	.....
Bennett, J. P. T.	do.	.....	Boyle, J. A.	Aug. 9, 1917	.....
Hill, W. W.	do.	.....	Ferguson, C. W.	Aug. 10, 1917	.....
Bresnahan, M. F.	do.	.....	Holliday, R. W.	do.	.....
Maire, C. E.	do.	.....	Scheer, J. W.	*Aug. 15, 1917	.....
Mirzac, J. F.	do.	.....	Hatter, M.	do.	.....
Scher, D. B.	July 1, 1917	.....	Cameron, S. B.	Aug. 18, 1917	.....
Dempsey, J. J.	do.	.....	Johnson, G. H.	*Aug. 21, 1917	.....
Wester, R. E.	July 2, 1917	.....	Smith, J. H.	*Aug. 23, 1917	.....
Harrington, H. D.	*July 4, 1917	.....	Summers, R.	Aug. 24, 1917	.....
Ruppelt, E. C.	July 5, 1917	Sept. 10, 1917	Templeton, P. V.	Sept. 1, 1917	.....
Hughes, C. B.	July 9, 1917	.....	Woodburn, J. H.	do.	.....
Bowyer, C. P.	do.	.....	Kellogg, I. L.	Sept. 5, 1917	*June 13, 1917
Sasala, E. J.	July 10, 1917	.....	Monton, A. J.	Dec. 6, 1916	June 30, 1917
Hostetter, A. F.	do.	.....	Jenkins, A. M.	do.	.....
Milligan, S. W.	do.	.....	Buzhardt, A. M.	May 26, 1917	*June 27, 1917
Mahood, H. F.	July 11, 1917	.....	Streeck, C. F.	Jan. 18, 1917	June 26, 1917
Beckett, J. C.	July 11, 1917	.....			

